



## **Evaluation of Health Care Worker Influenza Vaccine Coverage among Alameda County Acute Care Inpatient Facilities from 2011-2012 to 2012-2013 Influenza Seasons – Preliminary Findings**

### **Background:**

In order to determine whether health care worker (HCW) influenza vaccination rates changed after the joint Local Health Officer HCW influenza vaccination order was issued in October 2012, Alameda County Public Health Department conducted a mixed methods evaluation of influenza vaccination coverage in acute care inpatient facilities in Alameda County (including the City of Berkeley) during the 2011-2012 influenza season and the subsequent 2012-2013 influenza season.

### **Methods:**

Introductory letters from the Health Officers explaining the evaluation and requesting contact information for key implementers and data collectors were distributed via email and postal mail to all acute care inpatient facilities in Alameda County. Exploratory interviews held with leadership at three facilities informed the development of qualitative and quantitative data collection tools. The qualitative and quantitative data collected represents a census of all 19 acute care inpatient facilities in Alameda County, which have been aggregated into 14 facility groups. A facility group is composed of between one and three acute care inpatient facilities, based on individual facility tracking and reporting practice.

A survey requesting quantitative information, including the number of HCWs vaccinated for influenza during the 2011-2012 and 2012-2013 seasons, was distributed via email to facility personnel responsible for collecting data about HCW influenza vaccination rates. Data was also abstracted from National Healthcare Safety Network (NHSN) reporting forms provided by facilities and the California Department of Public Health. Quantitative analysis was performed to test whether the vaccination rate for all HCWs at a given facility group during the 2012-2013 influenza season was greater than the vaccination rate for all HCWs at the same facility group during the 2011-2012 influenza season. Number of vaccinated HCWs was compared with number of HCWs who declined vaccination or had an unknown vaccination status within each facility group. All results were generated using one-tailed Z-tests to compare two proportions (Pearson's chi-square test). Statistical significance was determined based on a significance level of  $\alpha = 0.05$ . Statistical analysis was performed using IBM SPSS Statistics Version 20.

In-depth, telephone-based qualitative interviews were conducted with one or more key implementer at each facility group. Key implementers were defined as personnel in charge of implementation of influenza vaccination and masking. Interviews were focused on communication methods, implementation strategies, enforcement, buy-in, personnel issues, and next steps. Chain referral sampling was utilized to identify additional key implementers when necessary. Data from these interviews was analyzed according to a modified form of grounded theory methodology and recursive abstraction. Qualitative analysis was performed using HyperRESEARCH 3.5.2.



## **Preliminary Findings:**

### **Quantitative:**

During the 2011-2012 influenza season, the median HCW vaccination rate was 73.7% with a range of 51.9% to 87.2%. During the 2012-2013 influenza season, the median HCW vaccination rate was 93.1%, with a range of 72.6% to 95.5%. Total HCW influenza vaccination rates increased from 72.3% to 86.5% among all facility groups, representing an absolute percentage point increase of 14.1%. Twelve of the 14 facility groups reported HCW vaccination rate during the 2012-2013 influenza season was highly statistically significantly greater than the vaccination rate for all HCWs during the 2011-2012 influenza season.

### **Qualitative:**

Analysis of qualitative results is still in progress. Qualitative findings potentially impacting the mandate for the 2013-2014 influenza season were reviewed and considered.

### **Specific changes or actions that were taken based on this review include:**

- The updated health officer order for 2013-2014 influenza season was disseminated earlier in the year;
- The start and end dates of influenza season and the ongoing duration of the order for every influenza season were further emphasized in the health officer order and explanatory documents;
- The 90% HCW vaccination rate exemption criteria was eliminated; and
- Additional resources were shared in the accompanying Frequently Asked Questions document, including website links to a sample declination form, educational posters, and other materials

### **Initial Conclusions:**

There was an overall statistically significant increase in health care worker influenza vaccination rates at Alameda County acute care inpatient facilities between the influenza season prior to the Health Officer order requiring mandatory influenza vaccination and the influenza season after the order was issued. In the 2011-2012 influenza season, none of Alameda County's acute care inpatient facilities achieved the Healthy People 2020 objective of 90% or greater influenza vaccination of all health care personnel. In the 2012-2013 influenza season, after implementation of the mandate, eight of Alameda County's 14 facility groups reported reaching this objective. Valuable qualitative input regarding the timing, content, and information accompanying the order has been incorporated into an updated Alameda County & City of Berkeley order for the 2013-2014 influenza season and beyond.

A final report including full analysis of quantitative and qualitative findings is currently in progress.

This survey was developed, conducted, and analyzed by Roza Tammer, California Epidemiologic Investigative Service Fellow.